Remarks/Arguments

Applicants have received and carefully reviewed the Office Action of the Examiner mailed July 3, 2006. Claims 1-45 are pending. Reconsideration and reexamination are respectfully requested.

Allowable Subject Matter

Applicants thank the Examiner for indicating that claims 14, 15, 17, 21-23, 32, and 33 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Rejection under 35 U.S.C. § 103

Claims 1-13, 16, 18, 19, 24, 25, 27-31, and 34-45 are rejected as being unpatentable over Sengupta et al. (US 6,359,647). Applicants respectfully traverse the rejection. Independent claim 1, as amended, recites:

> 1. (Currently Amended) A method for monitoring an area of interest containing a hazardous or sensitive object, the area of interest having a border and an interior region, wherein the interior region is at least partially defined by the border region, the method comprising the steps of:
>
> defining an interior region containing the hazardous or sensitive object;
>
> defining a border region around at least part of the interior region, the border region defining at least part of a safety zone that extends around at least part of the hazardous or sensitive object;
>
> monitoring at least a portion of the border region of the area of interest for breach by an object while not monitoring at least part of the interior region of the area of interest; and
>
> monitoring at least a portion of the interior region of the area of interest for the object after the object breaches the border region.

Emphasis added. Sengupta et al. do not appear to teach such method steps. Sengupta et al. appear to teach a method for tracking a target moving through an area monitored by multiple cameras. More specifically, Sengupta et al. state:

> The preferred system provides a nearly continuous display of a figure as the figure moves about throughout multiple cameras' potential fields of view. When the figure approaches the bounds of a selected camera's field

> of view, the system determines which other camera's potential field of view contains the figure, and adjusts that other camera's actual field of view to contain the figure. When the figure is at the bounds of the selected camera's field of view, the system automatically selects the other camera. The system also contains predictive location determination algorithms. By assessing the movement of the figure, the system selects and adjusts the next camera based upon the predicted subsequent location of the figure.

See, Sengupta et al., Abstract. Sengupta et al. do not appear to teach many of the steps of claim 1 including, for example, the steps of defining an interior region containing the hazardous or sensitive object, or defining a border region around at least part of the interior region, the border region defining at least part of a safety zone that extends around at least part of the hazardous or sensitive object, as now recited in claim 1. Furthermore, Sengupta et al. do not appear to teach the steps of monitoring at least a portion of the border region of the area of interest for breach by an object while not monitoring at least part of the interior region of the area of interest, or monitoring at least a portion of the interior region of the area of interest for the object after the object breaches the border region, as recited in claim 1. Additionally, there is no motivation for one of ordinary skill in the art to modify the surveillance method of Sengupta et al. to achieve the claimed method.

With regard to dependent claim 6, the Examiner asserts that Sengupta discloses disabling a piece of equipment located in the area of interest, pointing to FIG. 2 and sensors 111 and 112 and asserting that this reads on automatic communicating with the cameras. Applicants respectfully traverse the rejection. Sengupta et al. do not appear to teach disabling a piece of hazardous or sensitive equipment when a border region is breached by an object. Sengupta et al. teach sensors 111 and 112 as alarm sensors that provide for automatic camera selection when an alarm condition is sensed. Sengupta et al. specifically state:

> Each alarm sensor has one or more cameras associated with it; when the alarm is activated, an associated camera is selected and adjusted to a predefined line of sight and the view is displayed on the screen 180 for the operator's further assessment and subsequent security actions.

See column 3, lines 32-37. Sengupta et al. thus do not appear to teach disabling a piece of hazardous or sensitive equipment in response to breach of a border region by an object, as is recited in claim 6.

The Examiner states that claim 11 is similarly analyzed and rejected the same as claim 1. Independent claim 11, however, recites method steps distinct from those of claim 1. Claim 11 recites:

> 11. (Currently Amended) A method for monitoring an area of interest having a border and an interior, the method comprising the steps of:
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> capturing a sequence of capture images of the area of interest, wherein each of the capture images capture at least part of the interior of the area of interest;
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> identifying one or more border regions in each of the captured images that correspond to the border of the area of interest;
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> analyzing the one or more border regions in the captured images and determining if an object has entered the one or more border regions of the area of interest; and
>
> outputting a signal indicating when an object has entered the one or more border regions of the area of interest, wherein at least part of the interior of the area of interest of the capture images is not monitored until a determination is made that an object has entered the one or more border regions.

Emphasis added. Sengupta, et al. does not appear to teach or suggest the method steps of claim 11. In particular Sengupta et al. does not appear to teach the steps of capturing a sequence of capture images of the area of interest, wherein each of THE capture images capture at least part of the interior of the area of interest, or the step of identifying one or more border regions in each of THE captured images that correspond to the border of the area of interest. Sengupta, et al. also does not appear to teach or suggest the method steps of analyzing the one or more border regions in THE captured images and determining if an object has entered the one or more border regions of the area of interest, or outputting a signal indicating when an object has entered the one or more border regions of the area of interest, wherein at least part of the interior of the area of interest of THE capture images is not monitored until a determination is made that an object has entered the one or more border regions.

The Examiner asserts that the area monitored by camera 105 of Sengupta et al. reads on a border region, and the interior region of the area of interest reads on the area monitored by camera 106, as shown in FIG. 2 of Sengupta et al. Using this interpretation, Applicants note that two different cameras are used; one for viewing the alleged border region and another for viewing the alleged interior region. Under this interpretation, however, Sengupta et al. does not teach or suggest all of the elements recited in claim 11. Apparently, the "area of interest" referred to by the Examiner is the area monitored by camera 106 of in Sengupta et al., and the step of capturing a capture image of the area of interest would include an image taken by camera 106, designated as P2 in FIG. 2. The area monitored by camera 106 would not, however, appear to include the area monitored by camera 105.

If camera 106 of Sengupta et al. is considered to monitor the "interior" region, and camera 105 is considered to monitor the border region, then Sengupta et al. cannot be seen to teach or suggest the step of capturing a capture image of the area of interest, including both the border and interior regions, because it does not appear that any of the cameras taught by Sengupta et al. would capture an image of both a border region and interior region. As such, and as noted above, Sengupta et al. would not appear to capture a sequence of capture images, wherein each of THE capture images capture at least part of the interior of the area of interest, and identifying one or more border regions in each of THE captured images that correspond to the border of the area of interest. Nor would Sengupta et al. appear to teach or suggest analyzing the one or more border regions in THE captured images and determining if an object has entered the one or more border regions of the area of interest, or outputting a signal indicating when an object has entered the one or more border regions of the area of interest, wherein at least part of the interior of the area of interest of THE capture images is not monitored until a determination is made that an object has entered the one or more border regions. Sengupta et al. thus do not appear to teach each and every element of independent claim 11 or the claims dependent thereon.

Regarding claims 12, 13, and 16, the Examiner asserts that Sengupta et al. disclose one or more border regions including a reference marking, pointing to "Fig. 2, the region monitored by the cameras have reference lines, i.e., marking" for support.

Sengupta et al. do not appear to teach any reference marking in Fig 2. Sengupta et al. do not appear to teach any "reference lines" or "reference markings" as asserted by the Examiner. ***If this rejection is maintained, the Examiner is respectfully requested to point out by specific column and line or figure and number where such element is taught by Sengupta et al.***

Independent claim 24, as amended, recites:

> 24. (Currently Amended) A method for monitoring an area of interest having a border and an interior region, the method comprising the steps of:
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> capturing at least two images of the area of interest using two separate image capturing devices;
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> identifying one or more border regions in each captured image that corresponds to the border of the area of interest, each captured image including at least a portion of the interior region;
>
> analyzing the one or more border regions of the captured images but not at least part of the interior region to determine when an object enters the area of interest; and
>
> outputting a signal indicating whether or not an object has entered the area of interest.

Emphasis added. Sengupta et al. do not appear to teach such method steps. The Examiner's assertions regarding which regions of Sengupta et al. are interpreted as being the border and the interior regions would not be captured in the same capture image because the regions are monitored by different cameras. For at least the reasons set forth above, as well as other reasons, Sengupta et al. do not appear to teach or suggest the specific method steps set forth in independent claim 24, as amended, or in the claims dependent thereon.

The Examiner states that claims 27, 28, 30, 31, and 36 are similarly analyzed and rejected the same as claims 1-9. Sengupta et al. does not appear to teach or suggest the method steps of claims 27, 28, 30, 31, and 36. In particular, independent claim 27, as amended, recites

> 27. (Currently Amended) A system for monitoring an area of interest having a border and an interior region, comprising:
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> capturing means for capturing a capture image of the area of interest; and
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> analyzing means for analyzing at least a portion of the capture image corresponding to the border region of the area of interest for breach

> by an object, and for analyzing at least a portion of the capture image corresponding to the interior region of the area of interest for the presence of the object after the object breaches the border; wherein the analyzing means does not analyze at least part of the capture image corresponding to at least part of the interior region unless an object breaches the border region.

Emphasis added. Sengupta et al. does not appear to teach such method steps. Sengupta et al. appear to teach a plurality of cameras viewing various regions of a building, and a system in which a target is tracked by automatically selecting, in succession, the cameras in which the target is viewable. As stated above, the Examiner has asserted that the region viewed by camera 105 of Sengupta et al. is being considered the border region and the region viewed by camera 106 as the interior region. For at least the reasons set forth above, Sengupta et al. do not appear to teach or suggest a system having a capturing means for capturing a capture image of an area of interest where the area of interest includes both a border and an interior region, as is recited in independent claim 27. Additionally, Sengupta et al. do not appear to teach a system having an analyzing means for analyzing at least a portion of such THE capture image corresponding to the interior region of the area of interest after an object breaches the border, but not analyzing at least part of THE capture image corresponding to at least part of the interior region unless an object breaches the border. Sengupta et al. thus does not appear to teach or suggest the elements of independent claim 27.

Independent claim 28 and claims 29-30 dependent thereon recite a system having an image capturing means, first and second processing means for processing at least one capture image to determine if an object has entered the area of interest, and output means for outputting a signal indicating that an object has entered the area of interest when both the first processing means and second processing indicate that an object has entered the object of interest. Sengupta et al. appears to have one processing means for processing the multiple capture images of the individual areas viewed by each camera in order to track an object as it moves through the building. Sengupta et al. do not appear to teach or suggest using two processing means or outputting a signal indicating the presence of an object when both processing means indicate the presence of an object. Additionally, Sengupta et al. do not appear to teach indicating the presence of a person when two

processing means detect the person, thus Sengupta et al. appears to fail to teach the elements of the claims.

Independent claim 31 recites a method in which at least a portion of the border region of the area of interest is monitored for breach by an object having a first minimum size, and at least a portion of the interior region of the area of interest is monitored for an object having a second minimum size after the object breaches the border region of the area of interest. The Examiner again did not specifically address claim 31. Applicants submit that Sengupta et al. do appear to teach or suggest anything with respect to a minimum size of an object to be detected, as is recited in independent claim 31. ***If this rejection is maintained, the Examiner is respectfully requested to point out specifically where in Sengupta et al. the elements of independent claim 31 are found or suggested.***

Independent claim 36 recites a method for monitoring an area of interest having two or more regions, in which each region has a border and an interior region. The method involves capturing a capture image of the area of interest, monitoring the border and/or interior region of a first region of the area of interest for breach by an object, and monitoring the border and/or interior region of a second region of the area of interest for breach by an object. The Examiner again did not separately address claim 36. Sengupta et al. do appear to teach or suggest such method steps. ***If this rejection is maintained, the Examiner is respectfully requested to point out specifically where in Sengupta et al. the elements of independent claim 36 are found or suggested.***

Independent claims 44 and 45 were not specifically addressed. Claim 44 recites a method for monitoring an area of interest in a field of view of an image capture device, including the steps of defining a border in the field of view of the image capture device, where the border at least partially defines an interior region of the area of interest. Sengupta et al. do not appear to teach such method steps. As stated above, the Examiner has interpreted camera 105 of Sengupta et al. as viewing the border region and camera 106 as viewing the interior region. Sengupta et al. appears to teach using multiple cameras, each with different fields of view to monitor different regions (e.g. border region and interior region) of an area. Sengupta et al. thus do not appear to teach the specific method steps recited in independent claim 44. ***If this rejection is maintained,***

the Examiner is respectfully requested to point out specifically where in Sengupta et al. the elements of independent claim 44 are found or suggested.

Independent claim 45 recites similar elements indicated as being allowable in claim 22. Independent claim 45 is thus believed to also be allowable. ***If this rejection is maintained, the Examiner is respectfully requested to point out specifically where in Sengupta et al. the elements of independent claim 45 are found or suggested.***

For at least the reasons set forth above, Sengupta et al. do not appear to teach or suggest the elements of the claims. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 26 is rejected as being unpatentable over Sengupta et al. in view of Conrad et al. (US 5,465,115). For at least the reasons set forth above, Sengupta et al. do not appear to teach or suggest the basic elements of independent claim 24, from which claim 26 depends. Conrad et al. do not appear to teach what Sengupta et al. lack. Thus, even if one were to combine the teachings of Sengupta et al. and Conrad et al., one would not arrive at the claimed system.

Reconsideration and reexamination are respectfully requested. It is submitted that, in light of the above remarks, all pending claims are now in condition for allowance. If a telephone interview would be of assistance, please contact the undersigned attorney at 612-359-9348.

Respectfully Submitted,

Date: October 3, 2006

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